



U.S. Army Research, Development and Engineering Command

## RDECOM Overview



***TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.***

Thomas Mulkern  
RDECOM – Global Technology Integration

Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE <b>SEP 2010</b>		2. REPORT TYPE <b>N/A</b>		3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>RDECOM Overview</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>RDECOM Global Technology Integration</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>See also ADA560467. Indo-US Science and Technology Round Table Meeting (4th Annual) - Power Energy and Cognitive Science Held in Bangalore, India on September 21-23, 2010. U.S. Government or Federal Purpose Rights License</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>SAR</b>	18. NUMBER OF PAGES <b>11</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

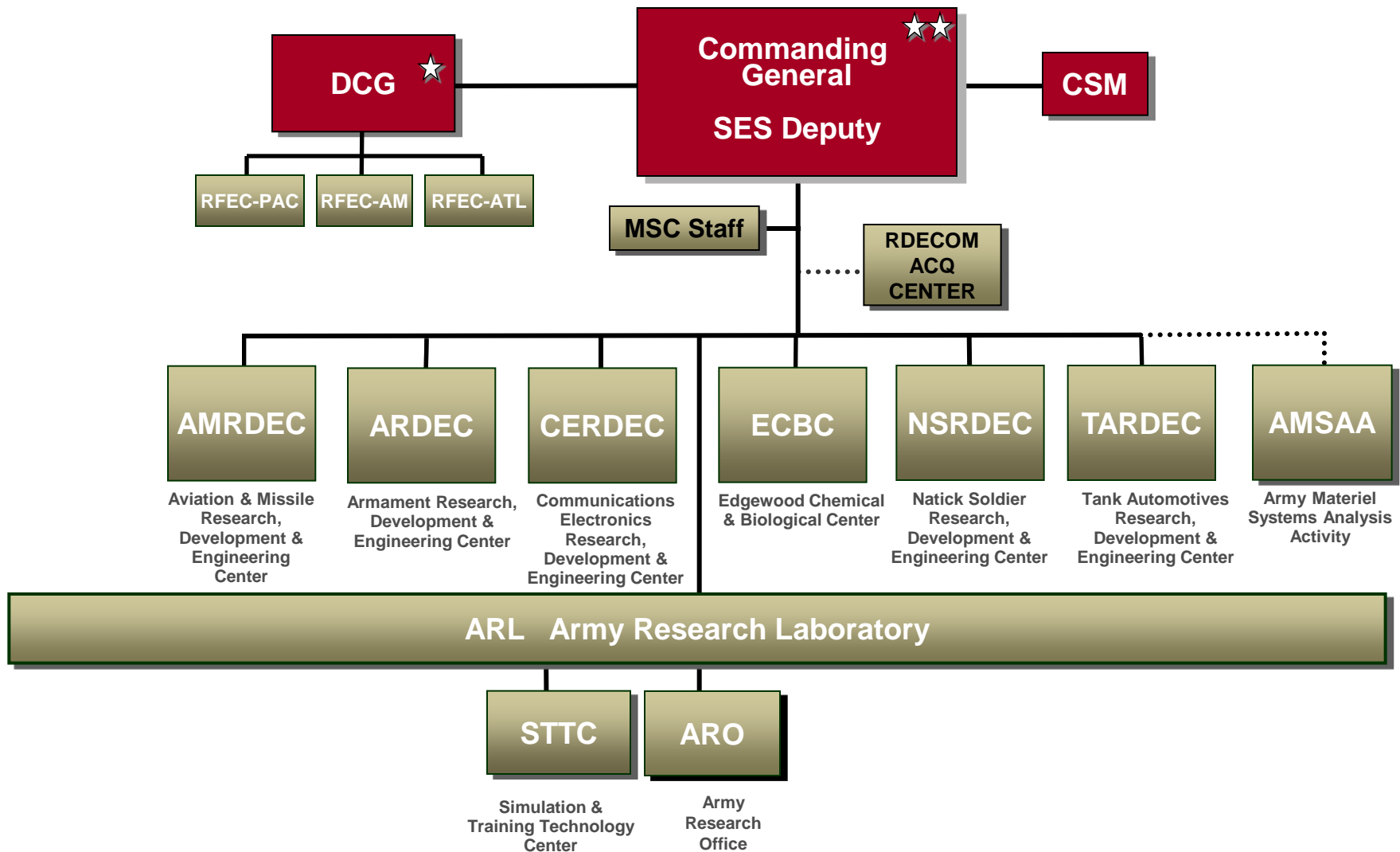


# VISION

**The Army's Primary Source for  
Integrated Research, Development  
and Engineering Capabilities**



# Organization



**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**



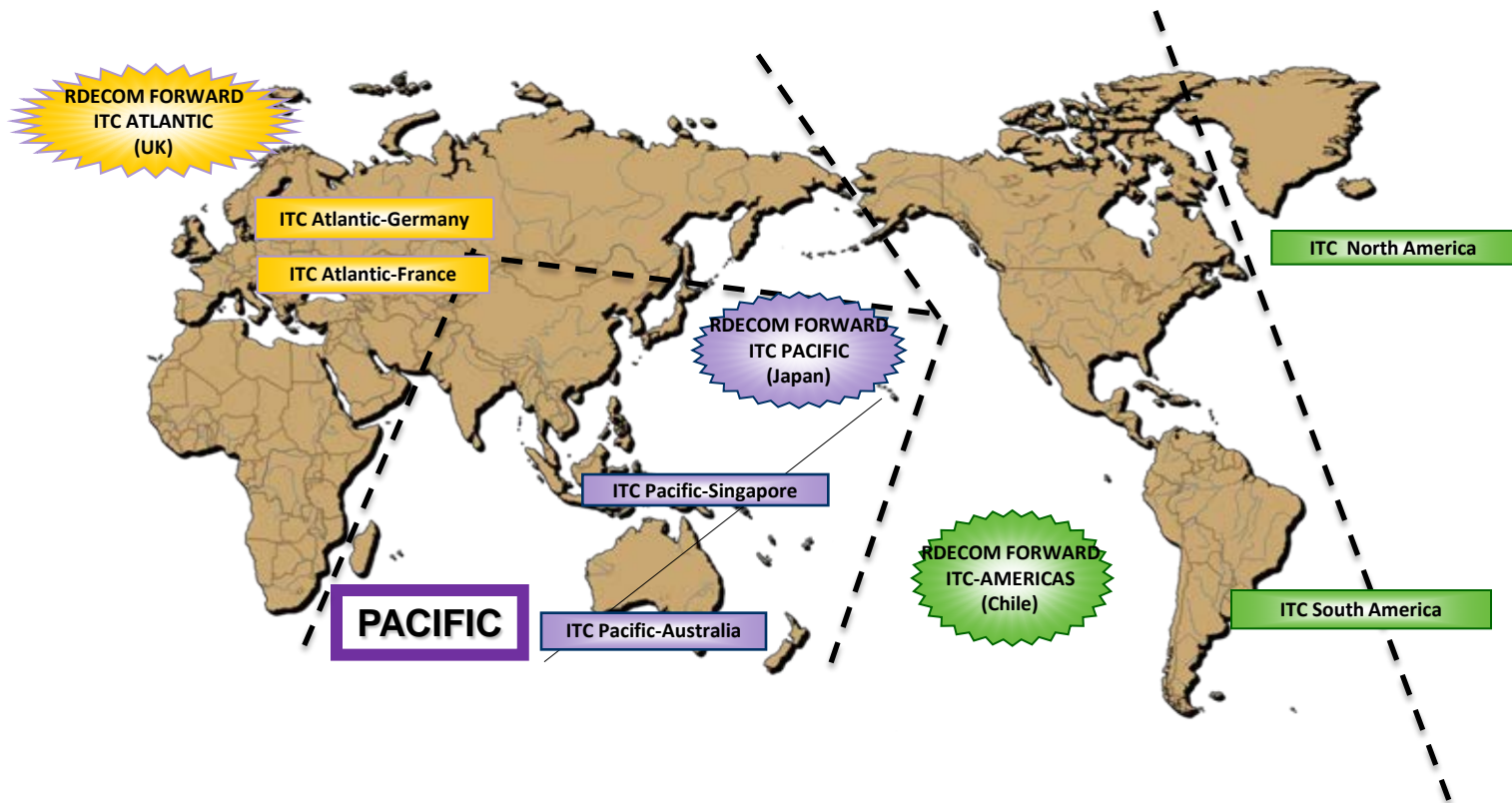


# RDECOM Forward Elements



**ATLANTIC**

**AMERICAS**



**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**



# World Class R&D Capability



## Eng/Scientists

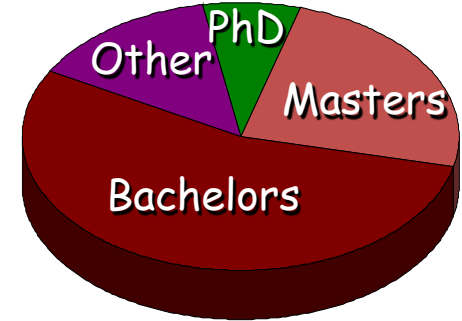
ARMY	≈17,000
RDECOM	56%
ATEC	11%
MRMC	6%
LCMCs	6%
USACE	5%
PEOs	4%

\*Note - CP16 series

### RDECOM (17,619 Total)

MIL	206
CIV	14074
CONT	3339

PhD	819
MS	2786
BS	6236
Other	1609
Total	9,450



- 3442 Computer/Electrical/Electronics Engineers
- 565 Physicists/Physical Scientists
- 1630 Mechanical Engineers
- 3387 General/Industrial Engineers
- 561 Aerospace Engineers
- 155 Materials Engrs./Metallurgists
- 100 Psychologists/Social Scientists
- 608 Chemical Engineers/Chemists
- 130 Biologists/Biomedical Engineers
- 9 Medical Research Technicians
- 368 Mathematicians/Statisticians
- 23 Meteorologists
- 472 E&S Technicians

*The Army's Leading Experts in their Fields - Focused on the Cutting Edge!*

**TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.**



# External Partnerships



## Academia

- 326 university level institutions
- Over 1200 Single Investigator Research Projects
- 63 Multi-Disciplinary University Research Initiatives
- 4 University Affiliated Research Centers

## Industry

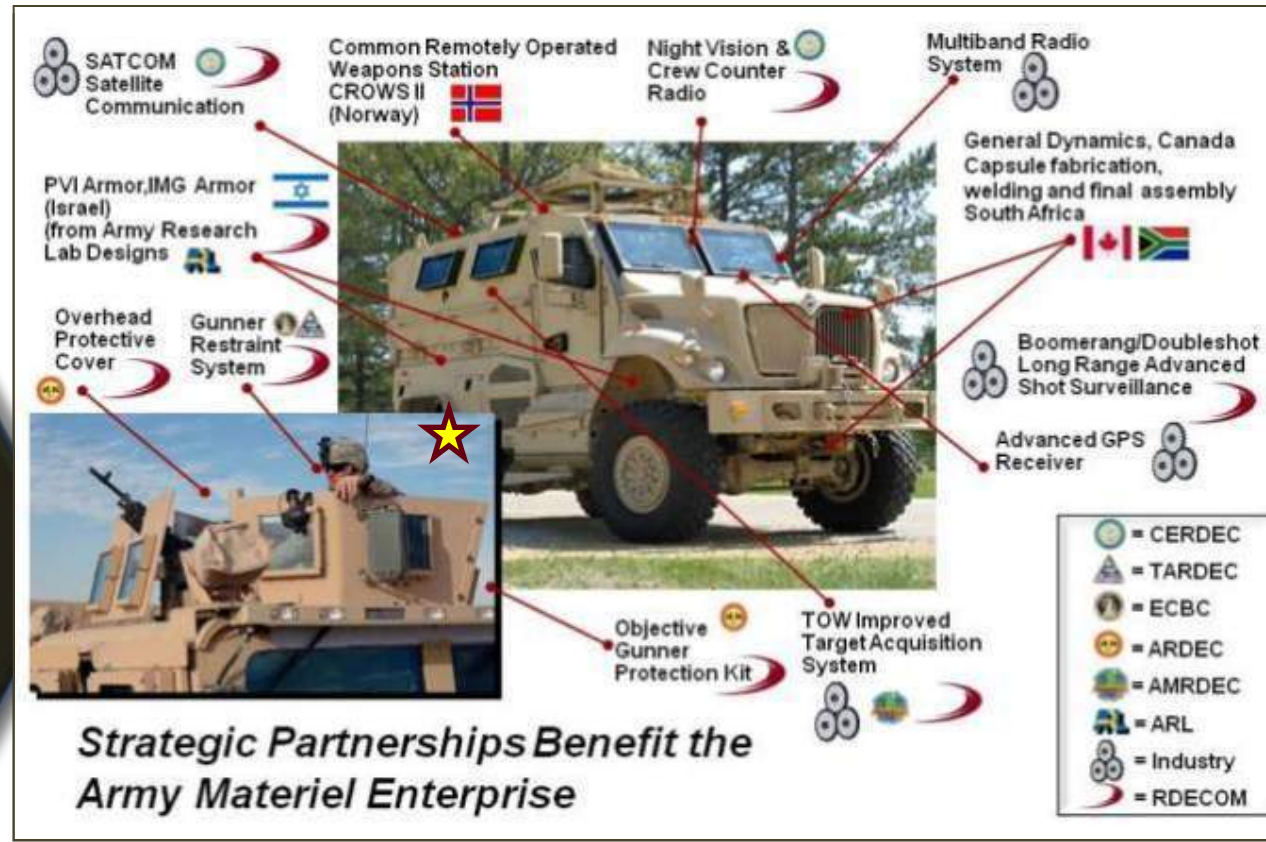
- Collaborative Technology Alliances
- Over 450 Cooperative Research and Development Agreements
- Over 600 Small Business Innovative Research agreements

## International

- Offices in 9 countries
- 239 agreements with 26 countries

## Interagency

- 904 agreements throughout DoD DARPA, JIEDDO, DHS, FAA, DoE, NSA, NASA, SMDC, etc





# Resources



JIEDDO/REF/DoD (\$300M+)

## Customer Funded Support

\$2.7B (OMA/PA/RDTE)

- Engineer Support
- PM Projects
- ONS/JUONS Solutions
- Prototype Integration Facilities

## Research & Development

\$2.7B RDTE

- Army Technology Objectives (ATO) (\$600M)
  - Projects Other Than ATOs (\$1,100M)
- Small Business Innovation Research (\$250M)
- Congressional Directed (\$800M)

## Direct RDTE

ARMY	≈ \$12B
PEOs	62.1%
ERDC	1%
SMDC	3.3%
MRMC	5.6%
RDECOM	23%

Indirect

Direct

*The Army's Largest Technology Developer*

**Total - \$5.5B (FY09)**

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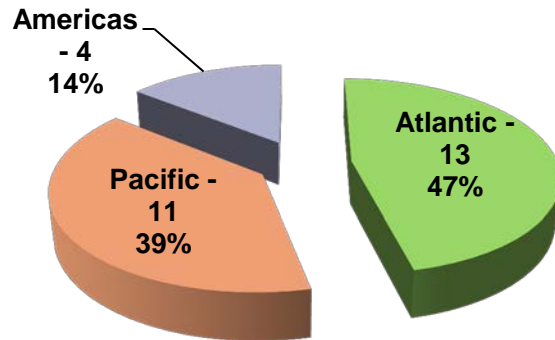




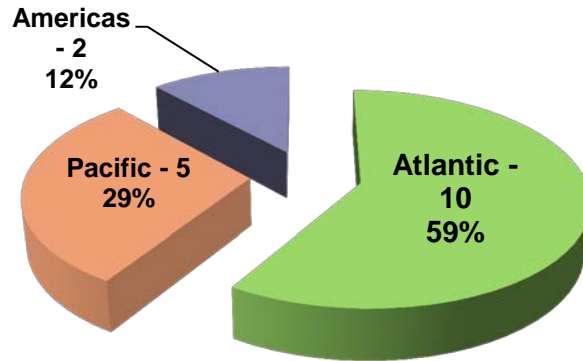
# Soft Power – Engineer and Scientist Exchange Program (ESEP) Success



## ESEPs by AOR



## ESEPs by AOR in U.S.



Santiago,

Excmo. Sr. Embajador de los Estados Unidos de América  
**Paul Simons**

Presente Estimado Embajador

Me dirijo a usted para saludarlo muy atentamente y a la vez, informarle que se ha recibido el informe sobre el término de los proyectos de investigación, en donde participaron activamente dos investigadores pertenecientes al Departamento de Investigación y Desarrollo del Ejército de Estados Unidos (RDECOM).

La participación de personal altamente especializado y de gran experiencia en actividades de investigación en temas militares, ha potenciado las capacidades y conocimiento del personal del Ejército de Chile en materias relacionadas con el entrenamiento de unidades, planificación y toma de decisiones mediante el empleo y uso de la simulación.

En este contexto, este Comandante en Jefe se hace un deber en destacar el desempeño y aporte de la Dra Teresita Sotomayor y del Sr Timothy Fargus, científicos que permitieron concretar en excelente forma los objetivos que se pretendían en ambos proyectos.

Al despedirme, estimo válida la ocasión para renovar los sentimientos de mi mayor consideración y estima.

**Cristián Le Dantec Gallardo**  
General de División  
Comandante en Jefe Subrogante



# Soft Power – PAC Engagement



## Technology Focus Areas

Survivability / Lethality

Networks

Sensors

Power and Energy

Mobility / Logistics

Human Dimension / Training



## Regional Partners

## Data Exchange Annex

## Project Agreements

Japan

13

0

Australia

12

0

Korea

10

2

Singapore

8

2

India

3

0

Taiwan

3

0

## Upcoming Events / Initiatives

Multi Autonomous Ground-robotic International Challenge (MAGIC 2010)

Project Agreement with Singapore on Portable Fuel Cell Technology – P&E for deployment

More ESEPs and FAST Advisors Assigned to AOR



## Technology Search

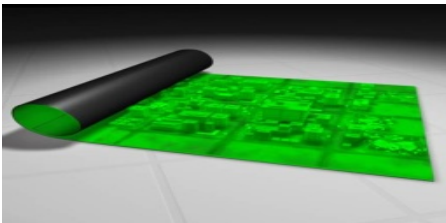
UAVs



Robotics

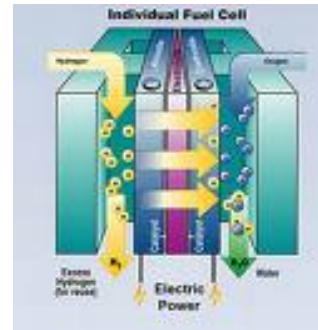


Holographic Maps

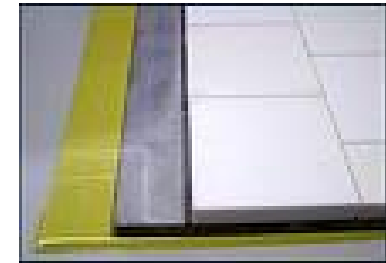


Field Assistance in  
Science and  
Technology (FAST)  
Advisors

Fuel Cell



Armor



American, British, Canadian, Australian and New Zealand  
Armies' Program



Standardization  
and  
Interoperability



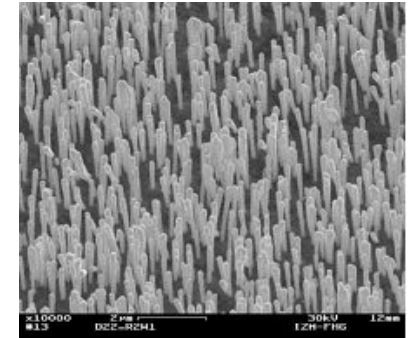


## RDECOM - Seed Funds:

- Thin Film Materials For Photo Voltaic Applications
- Experimental study of the dwell-penetration transition in various types of ceramic armor materials



**MEMS**



**Nano  
Materials**

**Armor  
Development**



**Power and  
Energy**

## RDECOM - Conference Support

- International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS 2010)
- Western Hemisphere Information Exchange Alternative Fuels & Unmanned Systems Conference

